What is claimed is:

1. A method for generating a total harmonic distortion reference signal, the method comprising:

    generating a triangle wave having a predetermined frequency and a predetermined amplitude; and

    filtering the triangle wave to produce a sinusoid having the predetermined frequency and amplitude.

2. The method of Claim 1, wherein generating the triangle wave further includes:

    generating a square wave at the predetermined frequency; and

    integrating the square wave into the triangle wave.

3. The method of Claim 2, wherein generating a square wave includes activating and deactivating a solid-state switching device.

4. The method of Claim 3, wherein the solid-state switching device includes a transistor.

5. The method of Claim 2, wherein integrating the square wave includes inputting a square wave to an operational amplifier.

6. The method of Claim 1, wherein filtering the triangle wave passes a signal substantially consisting of a sinusoid at the predetermined frequency and selected harmonics of predetermined amplitudes.

7. The method of Claim 6, wherein the predetermined frequency is selected from a plurality of frequencies.

8. An apparatus for generating a total harmonic distortion reference signal, the apparatus comprising:

    a triangle wave generator configured to generate a triangle wave having a predetermined frequency; and

    a filter configured to receive the triangle wave from the triangle wave generator, the filter being configured to pass a signal substantially consisting of a sinusoid at the predetermined frequency and selected harmonics of predetermined amplitudes.

9.   The apparatus of Claim 8, wherein the triangle wave generator is configured to receive a clock signal.

10.   The apparatus of Claim 9, wherein the clock signal is an integer multiple of the desired frequency.

11.   The apparatus of Claim 8, wherein the predetermined frequency includes a frequency selected from a plurality of frequencies.

12.   The apparatus of Claim 11, wherein the predetermined frequency is adjustably selected from a plurality of frequencies.

13.   The apparatus of Claim 8, wherein the triangle wave generator includes:
        a square wave generator configured to generate a square wave having the
                predetermined frequency; and
        an integrator configured to integrate the square wave into the triangle wave.

14.   The apparatus of Claim 8, further comprising an input voltage follower configured to input a first signal from the output of the triangle wave generator and to output to the filter a second signal based upon the first signal.

15.   The apparatus of Claim 8, further comprising an output voltage follower configured to receive a third signal from the filter and to output a fourth signal based upon the third signal.

16.   The apparatus of Claim 13, wherein the square wave generator includes a solid-state switching device.

17.   The apparatus of Claim 13, wherein the integrator receives a square wave at an input of an operational amplifier.

18.   The apparatus of Claim 8, wherein the filter is configured to pass a signal substantially consisting of a sinusoid at the predetermined frequency and selected harmonics of predetermined amplitudes.

19.   The apparatus of Claim 18, wherein the predetermined frequency is a frequency predetermined from a plurality of frequencies.

20. An apparatus for generating a total harmonic distortion reference signal, the apparatus comprising:

a Schmidt trigger oscillator configured to output a square wave;

an integrator configured to integrate the square wave into a triangle wave; and

a generalized impedance converter configured to filter the triangle into a signal substantially consisting of a sinusoid at the predetermined frequency and selected harmonics of predetermined amplitudes.

21. The apparatus of Claim 20, wherein the generalized impedance converter is further configured as an active bandpass filter.

22. The apparatus of Claim 21, wherein the active bandpass filter is a second order filter.

23. The apparatus of Claim 20, wherein a first voltage follower inputs the triangle wave from the integrator and outputs the triangle wave to the generalized impedance converter.

24. The apparatus of Claim 20, wherein a second voltage follower inputs the sinusoid wave from the generalized impedance converter and outputs the signal substantially consisting of a sinusoid at the predetermined frequency and selected harmonics of predetermined amplitudes to a unit under test.

25. The apparatus of Claim 20, wherein the Schmidt trigger includes a metal film resistor.

26. The apparatus of Claim 20, wherein the integrator includes a Teflon film capacitor.

27. The apparatus of Claim 20, wherein the generalized impedance converter includes a metal film resistor.

28. The apparatus of Claim 20, wherein the generalized impedance converter includes a Teflon film capacitor.

29. The apparatus of Claim 20, wherein the Schmidt trigger includes an integrated circuit operational amplifier.

30. The apparatus of Claim 20, wherein the integrator includes an integrated circuit operational amplifier.

31.   The apparatus of Claim 20, wherein the generalized impedance converter includes an integrated circuit operational amplifier.

32.   The apparatus of Claim 20, wherein the apparatus is potted.